Background

- An estimated 15 million cancer survivors currently live in the United States.
- This number is expected to jump to 20.3 million by 2026 (1).
- Less is understood about the extent to which exercise and MHB interact to affect quality of life in a general population of cancer survivors.

Methods


Definitions:

Cancer Survivor: Any person who has been diagnosed with cancer from the point of diagnosis through the end of life.

Any Exercise: Any self-reported physical activity or exercise performed outside of work in the last 30 days.

High MHB: Self-reported 14 or more days of poor mental health in the last 30 days.

Low MHB: Self-reported 13 days or fewer of poor mental health in the last 30 days.

General health: Self-reported and dichotomized as “Good or better” and “Poor or Fair”.

Statistical analysis

Logistic regression was used to model the log odds of reporting good or better general health with an interaction term for any exercise and MHB. Weights were applied to account for the complex survey design. The interaction term was used to estimate the effect of any exercise by different levels of MHB. The referent group was no exercise and low MHB.

Results

Odds Ratios of Good or Better General Health for the Interaction Between Any Exercise and Mental Health Burden, Michigan Cancer Survivors

<table>
<thead>
<tr>
<th>Exercise and MHB</th>
<th>Odds Ratio</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any Exercise and Low MHB vs. No Exercise and Low MHB</td>
<td>1.0</td>
<td>Reference</td>
</tr>
<tr>
<td>No Exercise and High MHB vs. No Exercise and Low MHB</td>
<td>2.2</td>
<td>(1.7, 3.0)</td>
</tr>
<tr>
<td>Exercise and High MHB vs. No Exercise and Low MHB</td>
<td>0.5</td>
<td>(0.3, 0.9)</td>
</tr>
</tbody>
</table>

Discussion

Discussion

In this analysis:

- The relationship between exercise and general health in Michigan cancer survivors differed by MHB.
- Odds of reporting good or better general health was 2.2 times higher for survivors who reported any exercise and low MHB compared to survivors who reported no exercise and low MHB.
- Odds of reporting good or better general health was lower for survivors reporting any exercise and high MHB compared to survivors who reported no exercise and low MHB.

Limitations

- MiBRFSS is an annual, cross-sectional survey of Michigan residents.
- Cancer survivors who respond must be healthy enough to participate, resulting in the potential for the most severe cases to be underrepresented.
- The measures for exercise, MHB, and general health were crude measures, and more refined measures may produce different results.

Conclusion and Public Health Significance

Conclusion

The effect of exercise on quality of life among cancer survivors may be modified by MHB. Further work is necessary to fully understand the relationship between the three variables. Exercise interventions tested in clinical trials may show a reduced impact when delivered to the general population.

Public Health Significance

The design and delivery of exercise interventions to cancer survivors should consider MHB as a factor that may contribute to success or failure of the program. Addressing MHB as part of the program may also be important.

References